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MONOPOLY

OF THE

ELECTRIC TELEGRAPH.

REMARKS

ON THE

DECISION OF JUDGE KANE,

U. S. DISTRICT JUDGE FOR THE EASTERN DISTRICT OF PA.

IN THE CASE OF FRENCH v. ROGERS & OTHERS,

A SUIT IN CHANCERY TO RESTRAIN THE USE OF THE PATENT GRANTED TO ALEX. BAIN.

New York:
PRINTED BY W. L. BURROUGHS, 113 FULTON STREET.
1851.

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MONOPOLY

OF THE

ELECTRIC TELEGRAPH.

The great Telegraph controversy in which Mr. Morse claims the exclusive monopoly of the application of electro-magnetism for recording intelligence between distant points, has attracted the serious attention not only of the legal profession, but also of the public at large. The novelty of the doctrines propounded, the magnitude of the interests involved, and the interesting character of the inquiry—all unite to make this one of the most important legal questions of the day. It will be perceived that this controversy involves the very principle and foundation upon which our system of patent laws has always been supposed to rest. We do not propose to go into the merits of the respective systems of Bain and Morse, nor to ascertain whether the former in any matter of detail infringes upon the rights of the latter, but merely to examine the broad grounds upon which Judge Kane has recently decided, in Philadelphia, that an injunction shall be issued to prohibit the use of the privilege conferred by Bain's patent, granted 17th April, 1849.

If we read Judge Kane's decision aright, he holds in effect that a patent may be obtained for an art in the abstract, so that Arkwright, for example, could have taken out a patent for the art, generally, of spinning by machinery, and could have monopolized or prevented all future improvements. It has on the contrary been always understood that no one could take out a patent for any thing beyond the mode, machine, or manufacture, fully described in his specification. If this limit were not imposed upon the patent system, the hugest and most unbearable monopolies would be created by the grant of patents for arts in the abstract, and the patent system which even in its modified form has, in the opinion of many, done more harm than good, would inevitably excite so much dissatisfaction in the public mind, that the Patent Laws would be repealed altogether.

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"Such a doctrine," says Judge Woodbury, in the great Telegraph case in Boston, "would discourage progress, rather than encourage useful arts, as the constitution wishes to be done, by granting patents.

"It would, after one invention as to the same subject, or same principle or art, halt and bar all further advances on the same subject.

"It would petrify everything as it stood—to the great loss of mankind, and in derogation of both private and public rights to advance human improvements and human power. It would, also, render the first improver a monopolist, and exclude the exercise or reward of further genius, science, and labor in the same line, however useful, and however much needed, beyond what has already been accomplished.

"But limit the doctrine, as we have done already, to the particular improvement made—and the patentee of it is allowed to protect that improvement, as he ought to be—it being his own invention—his own property and the fruit of his own exertion, though, of course, it does not protect, and should not, a monopoly of what else may have been invented by others before, or may be invented by them afterwards, on the same subject. The chief care must be—while allowing others their rights, to shield his, and not let others claim or use his method or improvement colorably or fraudulently—but only use what is substantially different. (Elect. Tel. Comp. vs. Little, et al, 34 Lond. *Jour. of Arts*, 130.)"

It is clear, beyond a doubt, that long before Mr. Morse turned his attention to the subject of telegraphing by electricity, the art of conveying intelligence by means of the electric current had been extensively known, published, and practised in many parts of Europe and this country; but the batteries were supposed to be too feeble for long distances, and capitalists could not be found to supply the means of building long experimental lines. Before Morse succeeded in persuading Congress to supply the necessary funds, there was a host of scientific men engaged in this country, as well as in England, France, Germany, and other parts of Europe, in experiments on the electric telegraph. They invented, published, and put in practice various ingenious modes of conveying intelligence by the electric current, a summary of which is set forth in Judge Woodbury's elaborate opinion, delivered at Boston; but it was found that the aid of the public purse was required, to bear the expense of the construction of a line of sufficient length to demonstrate the practical value and importance of the discovery. As soon as this line was built, many improvements, of course, were made in matters of detail, by which rapidity enough for purposes of business was obtained.

When Morse obtained his first patent, he only claimed to be the inventor of "a new and useful *improvement* in the mode of communicating information by signals," and by the power of electro-magnetism; but some years afterwards, presuming upon his popularity, he began to enlarge his claims, and the present litigation is the result.

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In 1828, four years before Morse had even heard of telegraphing by electricity, various successful efforts had been made in this country, especially by Harrison Grey Dyer, an enterprising American. It is beyond dispute, that in 1828 he constructed a telegraph on Long Island, on the race course, by wires on poles, and using glass insulators. He used common electricity, and but one wire, which operated by a spark, which, after going through paper chemically prepared, so as to leave a red mark on it, passed into the ground without a return circuit. The difference of time between the sparks, was by an arbitrary alphabet, to signify different letters, and the paper was moved by the hand, while the telegraph operated, though machinery was contemplated to be introduced for that purpose. Dyer could not control capital enough to have a long line built, and had no influential friends in Congress to induce that body to supply the pecuniary means required. Various short lines had been put up in different parts of Europe, before Morse filed his caveat—amongst others, Steinheil had, at Bergen-hausen, an electro-magnetic telegraph, half a mile long, on poles, which made dots and short marks on paper. The characteristics of Steinheil's alphabet consisted in an arrangement of dots and spaces in two rows, written with a fountain pen—actuated by the power of electro-magnetism—upon a ribbon of paper which was moved or drawn along in a uniform motion, by a system of cylinders or rollers put in motion by a descending weight. The electrical current used by Steinheil was generated by a magneto-electrical machine.

Long before this, viz: in 1820, Oersted, the Danish philosopher, discovered that a magnetic needle at a distance, might be deflected by a galvanic current, and thus make information by signals, which, as Judge Kane says, "spoke to the eye for the moment." In the same year, Arago, Ampere, and Sir Humphry Davy discovered as much as Oersted had. These discoveries were all published.

Here, then, we have the art of transmitting intelligence to distant points, by means of the electric current operating directly, and also by giving motion to certain machinery. Thus, the electro-telegraphic art clearly was not invented by Morse, but he uses the means thus devised to produce marks. This is now claimed by him to be "a new art;" but we should only call it an improvement on the first form of the electric telegraph, and this is what he calls it himself in his patent. Be this as it may, it is not pretended that he

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was the first to produce intelligible marks by means of the electric current. for Dyer, for example did that, but he had not a letter for each word, nor mechanichal contrivances to secure the necessary despatch. It is claimed that others had made different marks for each letter, before Morse, and had published their discovery. Judge Kane says that the devices of Steinheil, Cook, and Wheatstone were merely semaphores that spoke to the eye for the moment. The evidence, however, was that Steinheil made dots and short marks on paper and used an alphabet. In 1837, Alexander formed an electric telegraph, by which, through signals somewhat like House's, he communicated, and spelt out at a distance, the word Victoria. Indeed, this was done earlier, and a key board was used, and letters on each key like House's. Cook and Wheatstone obtained a patent in England, 12th June, 1837, for an electric telegraph. The circuit was broken and closed by the finger key, and the current was sustained by a galvanic battery. The alphabet used was that of the roman capitals, but in the working of the telegraph they were not recorded but only indicated by evanescent signs.

It is not pretended that the idea of transmitting intelligence by electricity originated with Morse, or the application of electro-magnets for that purpose, or the making of marks on paper by the power of electricity.

Even the patent last issued, in 1848, on the specifications amended a second time, is only for a "new and useful improvement," which is defined in the claim, to be the use of the motive power of magnetism *as set forth in the description accompanying*, "as means of operating or giving motion to machinery which may be used to imprint signals upon paper, or other suitable material, or to produce sounds." The patent was not granted for "*the art of recording generally by electricity*," nor even for recording "signs of letters" by all the means of attaining that object, although the last clause of the claim, embodied in the patent is as follows: "I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specifications and claims, the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs of letters at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer." Judge Woodbury holds that this clause, if not controlled by other parts of the instrument, would

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make the renewed patent of 1848 void, for claiming too much, and for asking to protect a mere principle or effect, "however developed," and without reference to any method described by him, and to cover a principle also before known. Judge Kane, overlooking these matters, says:

"Yet admitting, for the sake of argument, that Mr. Morse's leading invention is correctly designated as a new art; and that he has sought to patent it accordingly, by a compliance with all the requisitions of the statute; it is still contended, and with much of elegant research into the radical meaning of the term, that an art, as such, cannot be made the subject of a patent."

The Judge is mistaken in supposing that the patent was for "a new art;" it was for "a new and useful improvement." Such are the words used in the body of the patent itself. Nor did the counsel for the defendant contend that a patent could not be granted for an art—for the word "art" is in the act of Congress—but they insisted that it could not be granted for an art in the abstract. On the question as to what was the real extent of Morse's claims, Judge Woodbury makes the following remarks:

"In order to ascertain whether Morse was the original inventor of all which he claims, it will be necessary first to examine and settle how much he does claim—that is, how much is embraced, in his specification.

"This inquiry is made somewhat complicated by his having taken out two different patents on the subject of electro-magnetism and its use in telegraphs, and having renewed one of them twice and the other once, and having preceded the first patent by a *caveat*, describing its character and extent.

"But what he claims does not seem material in this case, except as set forth in the first patent and its various renewals.

"I shall, therefore, confine my inquiry to that, though the others must be at times adverted to, the better to understand what was meant in that.

"As represented in his letter to the Treasury Department in 1837, Morse says he had been attempting since 1832 to make electricity visible at a distance by signs, intelligible and certain, so as to communicate information. (See it in Vails's Hist., 152.) And in his caveat of Oct. 6th, 1837, he claims to have 'invented a new method of transmitting and receiving intelligence by means of electro-magnetism.' Or, in other words in the same instrument, 'a method of recording permanently electrical signs' at a distance. His specification filed in 1838, April 7th, is much the same in substance.

"Following up a like idea in 1840, in his first patent, he claims in that to have invented only a "new and useful improvement in the mode of communicating information by signals," and by the power of electro-magnetism. (See first patent, June 20th, 1840.)

"Such is, in substance, the title of this patent in its original form and under all its renewals.

"In his last specifications in 1848, he claims to have invented merely 'a new method,' or 'a new and useful apparatus for a system of transmitting' intelligence, which puts in motion machinery for producing signs, and at a distance recording said signs. (See last renewal, 13th June, 1848.)

"From all these, standing by themselves, it would seem manifest that he makes no pretension to have invented or discovered any new principles in physics, or to have discovered the old principles of electricity or galvanism. Nor does he claim to have invented or discovered any new principle in mechanics—like a new power, resembling the lever or screw. *As little would any one have sup-*

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posed, that he meant to claim as his invention and as new—the application at all, of electro-magnetism to the purposes of telegraphing at a distance, whether by making intelligible marks or signs there, or in some other mode—if it had not been for some remarks in one of his letters in 1837, and some words in the eighth clause of his last specification, and the ground taken in the argument, recently, by his counsel.

Thus, in his letter in September, 1837, to Jackson, he seems to have believed he had some claim to this discovery, viz:—as he discribes it—'The original suggestion of conveying intelligence by electricity'—as well as to the invention, which he calls 'The devised mode of doing it.'—(79. a Ev.)

"Yet nothing of this is believed to be inserted in any of his official documents, till 1848.

"In his last renewal in 1848, there are introduced for the first time, some changes of language and some tendencies in a part of them, as well as in some of the arguments, to make the claim broader, and, as in the letter just quoted—to cover all application of electro-magnetism, if not of electricity—to convey intelligence, or to telegraph to a distance.

"But as late as 1846, so far from claiming the discovery or invention of any new general principle or art, and asking a patent to protect himself in the exclusive use, as inventor, of all telegraphs by electro-magnetism—he asks for protection of only his own improvement—his own method—his own apparatus. And he seems in his last specification, in 1848, to regard as the great excellence and novelty of his invention, that it imprints the signals at one end, which were sent at the other, and in such characters as to be intelligible, without an observer to note them, and easily translated into English by means of his stenographic alphabet—and hence he there styles it a 'recording or printing telegraph.' When there, for the first time, he speaks also of 'the essence of my invention being the use of the motive power of the electric or galvanic current,' 'however developed,' 'for marking or printing intelligible characters,' 'at any distance,' being 'a new application of that power of which I claim to be the first inventor or discoverer,' he must, by all before said and done, be considered as claiming it in the form of his application—according to his machinery—and in the modes he had described in 1837, 1838, 1840, and 1846—rather than in this succeeding clause of 1848, and by it intending to cover the application itself of electro-magnetism to telegraphic purposes, in every possible form. *Otherwise, his renewed patent of* 1848 *must be regarded as void for claiming too much*, and for wishing to protect a mere principle, or effect, 'however developed,' and without reference to any method described by him, and to cover a principle, also, before known—(Harvey Ev., 23.)

"But, limiting the patent to what is described as his method, or mode, and considering that in his 'first claim,' in 1848. he disclaims such broad views as appear in the 'eighth claim,' of that date, and expressly says, 'I wish to be understood that I do not claim the use of the galvanic current, or current of electricity, for the purpose of telegraphic communications generally, but a new mode of using it, to move machinery to print signs, &c., as described,' all is consistent and confined substantially to the mode he sets out in his specifications, and in his own testimony in the record, (p. 49).

"What he thus sets out is the subject invented.

"What is to be protected is not an abstract or isolated principle, but the embodiment of a principle into a machine or manufacture, as described in the specification; and it is the invention, in conformity to that embodiment or representation of its working, which the act of Congress will protect, (Bolton vs. Bull, 2 Hen. Bl. 458, 403, 483, and D. & E. 95. Web. Ca. 208; Web. on Pat 4, 58, 126-8; 2 Stor. R. 412, 408; Curtis on Pa. §4, 96 & §145; 1 Stor. 271; Godson on Pat. 72; Phil. Pa. 90; 1 Gallis. 478; Hindmarsh, 157.) Because by those laws, the inventor is not to be protected, unless he describes plainly and fully what he has done, so that the public may copy or imitate, and use it after his term expires.

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"That is the consideration for the exclusive use during the period of the patent, and having this, prevents the patentee from claiming afterwards more than he had invented when his patent issued. (Web. cases 719, 1 & 2, and D. & E. 100, 2; Curtis §128, 205. (And what he does not, or certainly what in the misty future he cannot describe, he must be presumed not to have invented.) 2 Hen. Bl. 483.)

"As this broader claim goes far beyond what we have already seen was that made in the caveat, and in the first specification, and in the original patent, as well as in all the subsequent renewals—as it conflicts with much of the language in this very last renewal—looking only to a new method and a mere improvement on what existed before, and as he seems to disavow it in his own evidence (49 record), and as on everything in the case, it is at least questionable whether he could have intended to patent anything, except an improvement on what before existed, I do not think it just to place a broader construction on his language, than the whole subject, matter, and description, and nature of the case seem to indicate as desired.

"These are all to be looked to; and no fancied construction, travelling too far, on a new and doubtful ground, is to be adopted; but rather what is natural and clear, cousidering what already exists on the same subject. (Haworth vs. Hardcastle, Webst. Ca. 485; Luval vs. Brown, 1 Woodb'y and Minot, 53, 58; 6 Peters, 218; 1 Stor. R. 282, 287; 2 Stor. R. 164; 1 Leemen, 482.) And I the more readily adopt this course for his own protection, as such a broader view might subject *his patent to be considered void, both for claiming too much, and claiming also the invention of a mere principle.* It would be claiming too much, as it would cover the application in every way of electro-magnetism to telegraphs. When this, as will be seen hereafter by the history of this subject, and is sworn to by a number of highly intelligent experts, had been known publicly and for years before Morse's first attention to the subject, in 1832. (Prof. Henry's Ev. 76 v; Prof. Hare, 92 v; C. B. Moss, Ev. 84; Henry, Ev. 223; Renwick Ev. 234-5; Steele Ev. 245-6; Reid Ev. 150; Chilton, Ev. 286; Borden, Ev. 218; Channing, Ev. 40; Jackson 77 r. and 81 r.)

"Indeed, he himself virtually admits the truth of this in his testimony. (Morse Ev. 49 r.)

"Others, no less than the persons cited, as well as the history soon to be given of the progress on this subject, show that several had, before Morse, not only made this discovery, but applied both electricity and electro-magnetism to the purpose of telegraphing. But if, by his alphabet and record, he had been successful in making an improvement in the use of electricity for that purpose, and wished to secure the new method of doing it, he was at liberty, in point of law, to take out a patent for that new mode, but for nothing more. (Henry's Ev.)

"He *came into the world too late for truly claiming much as new.* A large galaxy of discoverers on this subject had preceded him.

"The avoidance of patents for claiming too much is of frequent occurrence and needs no explanation as to the reason for it, when an applicant is so improvident or unjust to others as to claim for himself more than he invented, and the credit or profit of which belongs to others rather than himself. (See 1 Stor. R. 373; 2 Stor. R. 4; 1 Sumner 482; 1 Web. Cases 485; 6 Peters 218; 1 Wood and Min. 53-8.)"

Morse's first patent, as renewed the last time, is giving it a favorable construction to make it valid, a patent for a certain *specified mode* of marking "*signs of letters*" by *certain machinery* put in motion by the motive power of the electric or galvanic current. Bain's patent is for making signs of letters directly by the action of the galvanic current on paper chemically prepared, without the intervention of any mechanical contrivances worked by the motive pow-

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er of electro-magnetism. Consequently Bain's patent does not infringe Morse's, if we construe the latter as Judge Woodbury does; whereas, if we hold that Morse was entitled to a monopoly of recording signs of letters, whether by the means described in his patent or not, and if a patent for such an overwhelming monopoly was really granted to him, then, and not otherwise, the privilege granted by Bain's patent conflicted with that of Morse's first patent as amended. House's patent differs, if possible, still more widely from Morse's: the former not being for the use of the motive power of electro-magnetism, to imprint "signs of letters," but it is for a method of printing plain Roman letters, for which machinery totally different from that used by Morse is required. By Morse's system it is true that a single letter could be printed, but not plain letters, successively and intelligibly—different machinery being necessary for the purpose. Judge Kane erroneously quotes Morse's patent as if the words were "signs or letters," whereas they are "signs of letters" by which he meant mere dots and dashes, as nothing else could possibly be made by the system described in his claim and specifications. By House's system the composition of the types of Roman letters is effected by the use of electricity, electro-magnetism, compressed air, and the force of a spring. Without any record being made, the operator can read the intelligence thus composed, and if House had stopped here, Morse would not have complained of infringement. But as House adopts the idea of recording on paper the intelligence thus composed and presented to the eye, Morse claimed that his patent was infringed, not indeed by the record being effected by the means used by him, or described by his patent, or anything like it, for House's type is made to print by manual power applied to machinery; but Morse insists that he was the first to conceive *the idea* of permanently marking intelligence by electricity, and that he could have a patent for the idea irrespective of any specification of the *modus operandi*, and that he has obtained such a patent. We have already seen that he is clearly wrong in all these three several particulars.

The assumption, that if Morse was the first to record intelligence by electricity by signs of letters he could have a patent for the exclusive right of recording any and all signs of letters by all the means of using that power is a palpable fallacy. Moreover no such patent was ever granted or applied for. Yet Morse thought that House's patent, although it was not even for marking signs of letters at all

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but letters themselves, was an infringement. The opinions of scientific men on the subject are thus set forth by Judge Woodbury:

"If we proceed next to the opinion of experts, whether House infringes on Morse, or, in other words, whether the principle of the two machines be unlike or not, there seems to be a remarkable preponderance in favor of House's machine. Mr. Morse himself is the other way, a gentleman—not educated specially to any branch of science, but having the general information of a man liberally taught, and a highly ingenious mind. (Prof. Silliman's Ev., 94, a.) He was a painter by profession, according to his evidence, (48 r.,) and beside him regarding House as infringing, is only Mr. Foss, an assistant in working one of his machines, but a baker and grocer till 1845. (Foss' Ev. 134.) These are all against House's machine; and neither of them seem to be experts, such as usually are relied on to give scientific opinions rather than mere facts. On the other hand, and that the principles of the two machines are clearly unlike, are numerous experts, including some of the most experienced and talented men in this line of science in the country, and some of them also very practical men. They all, twelve or fourteen in number, unite in the the conclusion, that the principle of the two is wholly different. See Borden, Ev. 8 a., record 2 a; Harvey Ev. 322; Philips Ev. 307, 97; Eddy Ev. 59; Chilton, 286, 292; Channing, 41 a; Hibbard, 27 a, 32 a; Byrne, 199. 201; Avery, 19; Barrett, 204; Gould, 68 a; Reynolds, 271; Renwick, 240; Jackson, 165.

"Some consider the two as unlike as 'a goose quill is to a printing press.' Borden's Ev. 7 a. And several of them express a decided opinion that House's is superior—some think as a work of science—some as a piece of mechanism, and some as to its practical utility. (Chilton's Ev. 286, Byrn 198–9; Harvey's Ev. 224, 230; Barrett's Ev. 205, 219; Philip's Ev. 303, 311, 298; Lindsy, 311; 3 Andrews 109; Crossman 106; Jackson 165.) Though more complicated, its results are in Roman letters, and require no translation; its speed in action is greater; and it is not so liable to mistakes in transmitting or construing and copying. Many of the patents for inventions which have been upheld, are such slight changes from former modes or machines as to be tested in their material diversity chiefly by their better results, such as the flame of gas rather than oil, the hot blast rather than the cold, charcoal used in making sugar, hot water in place of cold in making cloth, &c., &c. (Web. Ca. 409; 5 Mason 1; 1 Wood and Min., Devol vs. Brown; 3 Wash. 197; 1 Peters C. C. 394.)"

In another part of his opinion the learned Judge, speaking of the difference between Morse's and House's system, says:

"Morse's operates rapidily and records in a species of hieroglyphics or stenography, which has to be translated into English; House's moves much faster, and at the astonishing rate of sixty or seventy strokes or breaks in a second, and at once records the information by its own machinery in Roman letters. It literally gives 'letters to lightning' as well as 'lightning to letters.' In short, the system of Morse, in one respect, viz:—in its tracing or writing, is essentially different as to its mode of recording from that of House's, and depends on machinery and devices original in Morse; whereas, House does not copy this, either in form or substance, but records in a different manner, and by new machinery, and by aid of one new power in axial magnetism, and of another old, but different power in air, applied in a new way. And it does this in letters, not signs, and with wonderful speed and accuracy."

When Bain appplied for his patent it was resisted by Morse, not on the ground of his present absurd claim to a monopoly of all the means of recording by electricity, whether described in his patent or not, but upon the ground that he had invented the same system as Bain's, and had filed a caveat before Bain's application. Bain

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had obtained a patent in England on 12th December, 1846, and on 27th Jannary, 1847, a caveat for a similar invention was entered by Morse in the secret archives of the office at Washington. It was held by the Attorney General that Bain being an alien could not be allowed to prove that he was the inventor before the date of his patent, but that Morse might show that he was acquainted with the invention before that date, and thus sustain his caveat. Accordingly Morse's son proved that his father had explained to him the same invention before 12th December, 1846.

A patent was granted to Morse, whereupon Bain appealed in the mode prescribed by the act of Congress to the Chief Justice of the District of Columbia, who decided that Bain was entitled to a patent, which was granted accordingly, and now the parties claiming under Bain are enjoined by a Circuit Court from using the privilege thereby granted. This is one of the numerous anomalies of the Patent Laws

The application by Bain for a patent was for a mode of telegraphing in which the galvanic current is made to produce marks upon paper chemically prepared, without the intervention of magnets or other machinery to be moved. The Commissioner of Patents, Mr. Burke, in deciding in favor of Morse as above mentioned, shows that by thus dispensing with machinery, the inertia which machinery has to overcome is avoided, which is very important in telegraphing through great distances, and more speed is attained. So that it appears that the system of making marks by machinery adopted by Morse, about which so much fuss has been made, was actually inferior to the system of making marks on chemically prepared paper by the direct action of the current.

The absurd proposition that Morse is entitled to a monopoly of all the means whereby marks may be made by the electric current was not at that time dreamt of by Morse, his counsel, or the Commissioner of Patents. But the latter says in his opinion on the rival chemical telegraphs: "The invention, it will be seen by reference to the specifications of the parties respectively, does not consist in the use of the electric current to make marks upon chemically prepared paper, nor making marks through a single line of conductors, nor *could a claim to either of these devices have been entertained as patentable, as they have long been known.* Is was shown by Faraday in 1833 (see Faraday's Researches,) that a current from even a single pair of plates was sufficient to make such marks, and to accom-

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plish them he used a single wire touching the paper, making marks whenever the contact was made. This was a well known mode at the time of exhibiting the chemical effects of the galvanic current." He then shows that at an early period patents for this mode of telegraphing were taken out in England.

Chief Justice Cranch on the appeal to him quoted and adopted this part of the Commissioner's opinion, and also quoted the following admission of Morse's counsel: "It is admitted that neither could patent the battery, the current, the prepared paper or the marking by the electro-chemical process; it was only a new combination of the several parts so as to produce a new result, and an old result in a better manner, that either could patent."

The Judge then holds that Bain's combination of machinery and materials was different from Morse's combination. And the Judge adds: "There cannot be a patent for a principle nor for the application of a principle, nor for an effect. Two persons may use the same principle and produce the same effect by different means without interference or infringement, and each would be entitled to a patent for his own invention."—*Godson*, 63, 68, 74.

Morse's claim as now presented is without a parallel for presumption and extravagance. Yet it has found advocates in a portion of the public press, for the miserable reason that it happens at the present moment to be set up against the assignees of a foreigner who has had a patent granted to him by the proper authorities under our laws.

It is in evidence that it was not until 1832 that Morse, on his return from France on the ship Sully, turned his attention to the subject of the electric telegraph. Dr. Jackson, of Boston, explained to him on that occasion how dots and marks might be made by the needle or lever, which had been used for pointing to letters. Morse soon began to avail himself of the results of the various scientific examinations and experiments in this country and in Europe, and in Oct., 1837, he filed his caveat. In April, 1838, he applied for a patent.

Cooke & Wheatstone obtained their patent in England, 12th June, 1837; Morse obtained his first patent here on 20th June, 1840, but made no practical application of his invention until some years afterwards, when an appropriation was made by Congress. Morse has, by virtue of his original application, claimed the benefit of various additions and improvements made from time to time in all parts of the

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world. He amended the specification of his original patent on 25th June, 1846, surrendering the old patent and taking out a new one in its place. This was repeated on 13th June, 1848, and on each occasion he expanded his claims. On 11th April, 1846, he took out a patent for what he calls his local circuit. He amended the specification of this patent on 13th June, 1848, taking a re-issue, and on 1st May, 1849, he obtained a patent for what he called the chemical telegraph, which is on a system similar to that of Bain. Judge Kane's decision proceeds on the first patent; he declines entering on the discussion of the chemical telegraph. He holds that the patent for the local circuit was violated, but it is unnecessary to examine this question, as the decision upon Morse's first patent covers the whole ground, and presents the great question of public interest to which we have already adverted.

The plan adopted by Morse was to make marks and dots, whilst most of his predecessors preferred a visual telegraph,—such as the needle pointing to plain letters, but making no mark,—and there is good reason to believe that if Congress had made an appropriation to bring out that system, improvements would have been introduced from time to time, and the result would have been a more reliable system than that of Morse, there being great liability to errors in the use of the dots and marks.

Morse armed the end of the needle, or lever, with a pin to make dots on paper; Dyer made marks on paper by a spark, but neither of those gentlemen could claim a monopoly in the use of the motive power of the electro-galvanic current for the purpose of conveying intelligence at telegraphic distances, for there is no pretence that the invention and application of that power for such purposes originated with either of them. Morse, however, is entitled to the credit of obtaining from Congress a grant of money to enable him to build an experimental line from Washington to Baltimore, without which aid it is most probable that other persons would at a little later period have had the credit and obtained the profit of bringing into practical, every day use in this country, the art of telegraphing by electricity. It was not until the close of the year 1843, nearly three years after Morse obtained his patent, that he effected any practical result, although in 1832 his attention was directed to the subject by Dr. Jackson, and five years afterwards Morse's caveat was filed. It has been customary in some quarters to give him the credit of discovering all that was the fruit of other men's labors, from 1832 down to 1849, the date of his last amended and enlarged patent.

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As already observed it is claimed that Morse invented the pin at the end of the lever or needle to make a dot, also a roller with appropriate machinery to keep the paper moving, and a stenographic alphabet, and that he increased the power of the electro-magnet. His claim to originality in all these several particulars is denied; but conceding it to its fullest extent, how does it follow that he has a right to the exclusive monopoly of all the means of marking intelligence by electricity, whatever may be the mode used, the distance, &c. Judge Kane says that Morse was the first to devise and practice the art of recording language at telegraphic distances (what is a telegraphic distance?) by any agency whatever. What is here meant by "*language*," and what by "*recording*?" It is not disputed that others had caused marks to be made on paper by the force of electricity, which were intelligible by noting the lapse of time between each mark, but it is contended on behalf of Morse that no one before him had made a mark *as a sign for each letter*, wherefore no one "recorded language." We have seen that this assumption of facts is incorrect, but even if it were otherwise, then Morse should only be entitled to the benefit of his machinery for making the marks. The invention of a stenographic alphabet would not, of itself, be a proper subject for a patent, and the utmost extent of Morse's right would be to a patent for his mode of recording, which would include the alphabet. Any one using different machinery to record intelligence could use another or even the same alphabet. Stenographic alphabets, similar to Morse's, were well known before he applied himself to the subject.

Here we may ask what right had Morse to use the old invention of the electro-telegraph for transmitting intelligence between distant points, either by the deflection of a needle pointing to letters, or by the making of marks on paper, interpreted by noting the lapse of time between the making of each of them? The answer is, because it was public property. Now Morse claims the exclusive right of using that old invention to produce other marks, on the strength of his claim to be considered the first who attached a pin to the end of a lever, making with it dots and dashes, to be interpreted by a stenographic alphabet, and introduced a roller to keep the paper moving while the dots and dashes were made upon it.

Why should not others be allowed to use the old invention, adding thereto a process different from that added by Morse and prong a different result. It is not asserted that Morse could pre-

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vent any one from using electro-magnetism, to present to the eye an intelligible letter or sign of a letter, but if a man should press with his thumb a soft piece of paper against such letter or sign and take an impression, then according to Mr. Morse's last expanded claim, construed on the widest expansion principle, his patent is violated, because it is construed to be a patent for the *general or abstract idea* of committing to paper whatever intelligence may be sent by electricity!

We can discover no reason for this enormous claim, unless it can be found in the following passage of Judge Kane's opinion.

"If we go back to the early story of our race and mark the stages of its long and difficult advances—from language, the first exponent of thought, to letters, its first record—and from letters to printing, which first diffused letters, widely, though slowly, among men—and from printing to the telegraph, the electric register of thought, spreading its fibres of sympathy over the intelligent world, and making it throb simultaneously everywhere, as with the pulsations of one heart; who will say that each transition between these great epochs that signalize the moral and intellectual progress of mankind, should not be marked by a memorial as stately as the first clipping of a cut nail, or the compounding of a new variety of liquid blacking? or that the men to whom we owe them should not be dealt with as liberally, or at least as justly, by the State."

If any meaning at all can be collected from this rhapsody, it is that somebody ought to have had a monopoly of the art of writing, in the age when that art was first introduced—and that the present age should be distinguished by a "stately memorial," in the shape of a huge monopoly to Mr. Morse.

But the Judge does not show us how the authorities are to be got rid of which decide that no one can claim a patent for the invention or discovery of a new principle or art generally, but only for the mode, machine or manufacture, to carry out the principle and reduce the art to practice. Thus the inventor of "the art of compounding a new variety of liquid blacking," may obtain a patent therefor, but no one would ever have been entitled to a patent for the art of making liquid blacking generally. He could only obtain a patent for the mode which he had devised and described. Judge Kane takes no notice, in any part of his opinion, of this obvious distinction, which is fully enforced and illustrated in the elaborate opinion of Judge Woodbury, before referred to, and from which we make the following extract:

"The impropriety of claiming a patent for the invention or discovery of a new principle, however important it may be *per se*—rests on the idea, that the exclusive use of the invention for a term of years is given to the patentee, to reward his genius and expense in making the invention and pointing out in his specification how it can be used beneficially, and the machine, if it be a machine, easily made by any mechanic for general employment. The patent is, in sueh

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case, and must be in order to possess validity, not for the principle—but for the mode, machine or manufacture, to carry out the principle and reduce it to practice. (Webs. on Pat. 45–8.) In short, the principle thus becomes the *modus operandi*, and rests in the new mode adopted to accomplish certain results. And though some expressions may have been used by one or two judges, which look like a sanction to patenting a principle, yet they are used in the above sense, of a principle in operation, in the manner set out in the specification, or are used too loosely from haste and inadvertence. Except for this view as to the method, what use would there be in a specification describing the machine or method? So where any judge speaks of patenting an art—it is not an art in the abstract, without a specification of the manner in which it is to operate—as a manufacture or otherwise. But it is the art thus explained in the specification and illustrated by a machine, or model, or drawings, when of a character to be. It is the art so represented or exemplified, like the principle thus embodied, which alone the patent laws ever are designed to protect. In the English patent acts, the word 'art' is not used at all.

"And in ours, as well as in our constitution, the word art means a useful art or a manufacture which is beneficial, and which, by the same law, is required to be described with exactness in its mode of operation, and which, of course, for the reasons already laid down, can be protected only in the mode and to the extent thus described. (I Story. R 273, 285; 4 Wash. C. C. 9, 12; 1 Howard, 204; Web, on P., 8, 9; Phil. Pat., 74 to 75; Hindmarsh, 49; Curtis, 38—9th section.)

"No lawyer, conversant with the patent system, could for a moment suppose, that because Arkwright first invented and perfected the art of spinning by machinery, he could have taken out a patent for this art generally, and covered and monopolized all kinds of future and different improvements in that art. On the contrary, he could shield no mode of the art but that which he had devised, used and described. So it has been held that a patent for cutting ice by human power, does not cover any mode but that described. (1 Story, R. 273.)

"So, though Woodworth first invented planing boards by machinery, he could not take out a patent for that art, principle or system generally, and thus either monopolize or prevent future improvements, when differing substantially from his machine. But the whole effort of Woodworth's assignees has been to describe his particular mode of planing, so as not to omit anything material, or to cover too much—and no attempt is made to protect anything connected with planing by machinery, except the mode thus described, or what is substantially the same."

The mischievous consequences that would result from the grant of patents for arts generally, without reference to the method invented by the patentee, are eloquently portrayed by the learned Judge. We will merely add by way of example of the working of such a system, that if any one man had been the inventor of the art of transmitting intelligence by electricity by any means whatever, he might have taken out a patent, not merely for his mode of exercising that art, but for the art generally, and then, if his method had required the lapse of a half minute between each letter or word, no other and better system could have been introduced without his permission, which might have been withheld at pleasure.

Not only does Judge Kane expand the patent law so as to hold that it authorizes the grant of a patent for an art in the abstract, but he holds also that a patent may be for a longer period than four-

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teen years beyond the date of a foreign patent obtained by the same party; that the patentee may surrender his patent as often as he pleases, and obtain re-issues enlarging his claim from time to time, and even that a patent for an improvement on an old art may be surrendered and another one be issued in its place for the invention of an art itself in the abstract. In the opinion we are favored with very little beyond the Judges' conclusions, and we find that these differ in the most essential particulars from those of other Judges before whom the same questions have been litigated.

But what strikes us as one of the most remarkable features of this controversy is, that without a trial at law, and in a case where other Judges had arrived at conclusions opposed to those of Judge Kane, he should take upon himself to issue an injunction to prevent the use of a patent granted by the United States, and that after the privilege granted by the patent had been exercised for some time without molestation over thousands of miles of territory in the various States! The Judge decrees that a great and important business shall be stopped immediately, whereby a large and valuable property is rendered worthless, and the reversal of the Judge's decision will not restore this loss. The injunction is insisted upon and enforced, although there is a *bona fide* question of title which must be finally disposed of by the Supreme Court, and more than one Judge of that Court has intimated an opinion against the plaintiff. Contrast this with the practice in the English Courts of Chancery in similar cases. By the settled practice of those Courts, where the right of the patentee and the question of infringement are not entirely free from doubt, the injunction is suspended until the right has been determined by a jury. This is a reasonable rule, preserving the common law right of trial by jury, where the witnesses are brought face to face and examined in open court, and it prevents hasty, crude and ill-considered adjudications, whereby irremediable mischief may be wrought by the writ of injunction. In all doubtful cases there should be a trial at law, and *a final determination of all legal points* before the writ of injunction is issued.

But according to the practice in Judge Kane's court, whatever may be the doubts on the facts, whatever may be the opinions of other judges, and even if the acts complained of are done under a patent granted by the government, and hundreds of thousands of dollars have been invested on the faith of it, and the privilege has been in the most public manner exercised, for a period, without

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restriction all over the country, yet the injunction is to be issued at once, the right of trial by jury is to be denied, and the disputed facts are to be decided upon mere depositions taken out of court, however desirable it may be to have a public examination of some of the witnesses.

It will be manifest to every reflecting mind that such a practice must be often calculated to produce grievous and irremediable injury to persons acting in the utmost good faith in the exercise of privileges which the government has assumed to confer upon them.

According to this practice, if a telegraph patentee can find in any one of the numerous districts through which his telegraph lines may run, a single judge who is known to have formed an off-hand opinion in his favor, having expressed such opinion in a public lecture, or in private conversation, that judge may be selected by the patentee and an injunction may be issued restraining the use of rival inventions, without the slightest regard being paid to the opinions of other judges.

A summary of the merits of this controversy lies in a small compass. Morse claimed to be the first to produce by electricity marks for signs of letters or words. To this it was answered, that others had preceded him, especially Steinheil. How does Judge Kane dispose of this? Simply by saying that Steinheil's device was merely a semaphore "that spoke to the eye for a moment."

This is a plain mistake of the leading question of fact—it not being pretended by any body that such was the nature of Steinheil's invention. And it will be observed that Judge Kane ignores the notorious facts known all over the world, mentioned in the opinion of the Commissioner of Patents above quoted.

In the next place, the defendant's counsel contended that if Morse had been the first to make marks by electricity, as signs for letters or words, he could only have a patent for the means used by him to produce that result, and other means equivalent thereto, in legal contemplation, and could not have a patent for a monopoly of the idea of making marks, and moreover did not obtain such a patent. How does Judge Kane deal with this? He does not notice either branch of the proposition! If he had attempted to refute the argument, his opinion would not have read so smoothly in the newspapers, for it would have appeared on the face of the opinion itself, that it was in opposition to that of the great patent lawyer, Judge Woodbury, and in direct conflict with the hitherto established law

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of patents; and it would have appeared, also, that the decision went beyond the true meaning of the patent granted to Morse, and supported pretensions that were formerly negatived by Morse's own counsel, and by Morse himself.

The question whether Morse's principal patent is valid, has been examined by Judge McLean, in a case in Ohio, and it is understood that an opinion was prepared by him to the effect that the patent was void, on account of its being for a longer period than fourteen years beyond the date of a patent taken out previously by Morse in France. But the judge very properly reserved the question for the opinion of the Supreme Court. This objection was raised in House's case. Judge Woodbury intimated that he would not decide the point, as he was of opinion that even if the patent was valid there was no infringement by House's system. For this reason the Judge held that it was unnecessary for him to decide upon certain objections raised to Morse's title, " and more especially *whether his chief patent is not invalid*, because covering too long a period, the time included by a previous foreign patent not having been deducted." From this passage in Judge Woodbury's opinion it is evident that he held the objection to be a serious one.

The claimant of such an enormous monopoly as that asked for by Morse, deserves and will receive no public support or sympathy; indeed the very act of setting up such a claim will cause the public to rejoice if the Supreme Court should hold that Morse's patent is utterly void, for the want of a strict compliance with the law. This would be a suitable retribution for the extravagance and outrageousness of his pretensions, which we may safely assert have never been paralleled since the introduction of the patent system into this country.

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